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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,275	08/27/2003	Sarah Zerbini	854063.732	6628

500 7590 07/03/2006

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EXAMINER

SCHILLINGER, LAURA M

ART UNIT

PAPER NUMBER

2813

DATE MAILED: 07/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/650,275

Applicant(s)

ZERBINI ET AL.

Examiner

Laura M. Schillinger

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-18, 20 and 34-43 is/are pending in the application.
- 4a) Of the above claim(s) 16-18, 20 and 34-43 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

Newly submitted claims 34-43 and amended claims 16-18 and 20 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claims 34-43 are directed to a separate and distinct species from that of originally elected claims.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 34-43 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Cunningham et al ('891).

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1. A process for the fabrication of an inertial sensor with failure threshold, comprising the steps of:

forming, on top of a substrate of a semiconductor wafer, a sample element embedded in a sacrificial region, the sample element having a weakened region (Abs., lines: 1-5 and (Fig. 1S (158, 160, 162, 168)));

forming, on top of said sacrificial region, a body connected to said sample element at a point away from the weakened region (Col.4, lines: 30-35); and

etching said sacrificial region, so as to free said body and said sample element (Col.4, lines: 40-46).

2. The process according to claim 1, in which the step of forming said sample element comprises:

forming a first layer of a first material, which coats said substrate (Fig. 1N (136));

forming a second layer of a second material, which coats said first layer (Fig. 1O (140));

shaping said second layer, so as to define said sample element (Fig. 1P (138)); and

forming a third layer of said first material coating said first layer and said sample element (Fig. 1R (142)).

3. The process according to claim 2, in which said first material is a dielectric material and said second material is a conductive material (Col.13, lines: 24-65).

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4. The process according to claim 3, in which said first material is silicon dioxide and said second material is polysilicon (Col.13, lines: 24-65).

6. The process according to claim 1, in which the step of making at least one weakened region comprises the step of defining a narrowing of said sample element (Fig.1 S (158, 160, 162)).

7. The process according to claim 6 in which said step of defining a narrowing portion comprises forming notches in said sample element(Fig.1 S (158, 160, 162, 164)).

8. The process according to claim 5 in which the step of making at least one weakened region comprises making a groove extending between opposite edges of said sample element (Fig.1 S (158, 160, 162, 164)).

9. The process according to claim 8, in which the step of making a groove comprises performing an etch of controlled duration of said sample element(Col.14, lines: 60-65).

10. The process according to claim 8 in which the step of making a groove comprises: forming a stop layer inside said sample element; and etching said sample element until said stop element is reached (Col.8, lines: 50-65- etch stop).

11. The process according to claim 1 wherein the step of forming at least one sample element comprises defining an anchoring pad of said sample element (Col.15, lines: 10-15).

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12. The process according to claim 11, in which the step of etching said sacrificial region is interrupted before removing residual portions of said sacrificial region underlying said anchoring pad (Col.15, lines: 10-15).

13. The process according to claim 1, further comprising making, before performing the step of forming said body, at least one first opening through said sacrificial region, which exposes one end of said sample element, and making second openings, which expose respective portions of said substrate (Col.14, lines: 5-15).

14. The process according to claim 13, in which the step of forming said body comprises: growing an epitaxial layer, which extends on top of said sacrificial region and through said first opening and said second openings; and etching said epitaxial layer until said sacrificial region is reached (Fig.1V).

15. (Original) The process according to claim 14, in which, during the step of etching said epitaxial layer there are defined anchorages (142) connected to said substrate (100) and elastic elements connecting said body to said anchorages (Fig.1U).

***Response to Arguments***

Applicant's arguments filed 1/30/06 have been fully considered but they are not persuasive. Applicant argues that Cunningham fails to teach a weakened region- this is not

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persuasive. The weakened regions are notches formed in the sample element- the subsequent filling of these notches does prevent the empty notches from anticipating Applicant's claim language. Moreover, the connection is a point away from the weakened region as claimed, See Fig.1S.

Applicant argues that 136 is not a dielectric, and 140 is not conductive as recited in claim 3- Col.13, lines: 25-55-explicitly teaches the contrary. Applicant argues the language of claim 5- claim 5 has been canceled. Applicant argues that the notches do not narrow- this is not persuasive, the notches do narrow the layer by forming smaller sections. Applicant argues that Cunningham fails to teach notches- the "apertures" are notches.

### *Conclusion*

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

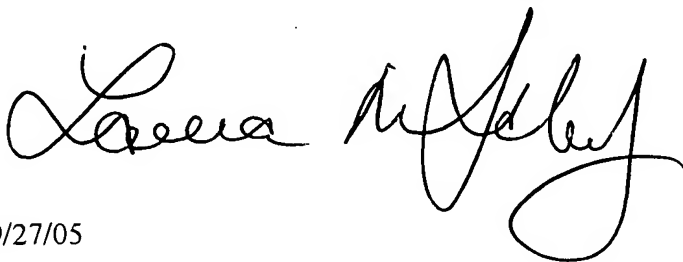
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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura M. Schillinger whose telephone number is (571) 272-1697. The examiner can normally be reached on M-T, R-F 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl W. Whitehead, Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Laura M. Schillinger', is written over a horizontal line.

Laura M Schillinger  
Primary Examiner  
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09/27/05